C L A I M S

1. A drilling system for drilling a bore hole into a subterranean earth formation, the drilling system comprising:

a drill string extending into the bore hole, whereby an annular space is formed between the drill sting and the bore hole wall, the drill string including a longitudinal drilling fluid passage having an outlet opening at the lower end part of the drill string;

a pump for pumping a drilling fluid from a drilling fluid source through the longitudinal drilling fluid passage into the annular space;

a fluid discharge conduit in fluid communication with said annular space for discharging said drilling fluid;

a fluid back pressure system in fluid communication with said fluid discharge conduit; said fluid backpressure system comprising a bypass conduit and a three way valve provided between the pump and the longitudinal drilling fluid passage, whereby the pump is in fluid communication with the fluid discharge conduit via the three way valve and the bypass conduit which bypasses at least part of the longitudinal fluid passage.

2. The drilling system according to claim 1, wherein back pressure control means is provided for controlling delivery of the drilling fluid from the pump via the bypass conduit into the discharge conduit.

3. The system according to claim 1, wherein the fluid back pressure system further comprises a variable flow restrictive device for imposing a flow restriction in a fluid passage, which flow restrictive device is on one

side of the flow restriction in fluid communication with both the pump and the fluid discharge conduit.

4. The system according to any one of claims 1, wherein the three way valve is provided in a form comprising a three way fluid junction whereby a first variable flow restricting device is provided between the three way fluid junction and the longitudinal drilling fluid passage and a second variable flow restricting device is provided between the three way fluid junction and the fluid discharge conduit.

5. A method for drilling a bore hole in a subterranean earth formation, comprising:

deploying a drill string into the bore hole, whereby an annular space is formed between the drill string and the bore hole wall, the drill string including a longitudinal drilling fluid passage having an outlet opening at the lower end part of the drill string;

pumping a drilling fluid through the longitudinal drilling fluid passage into the annular space, utilizing a pump in fluid connection with a drilling fluid source;

providing a fluid discharge conduit in fluid communication with said annular space for discharging said drilling fluid;

providing a fluid back pressure system in fluid communication with said fluid discharge conduit; said fluid backpressure system comprising a bypass conduit and a three way valve provided between the pump and the longitudinal drilling fluid passage; and

pressurising the fluid discharge conduit utilizing said pump by establishing a fluid communication between the pump and fluid discharge conduit via the three way valve and the bypass conduit thereby bypassing at least part of the longitudinal fluid passage.

6. The method of claim 5, wherein controlling delivery of the drilling fluid from the pump via the bypass conduit into the discharge conduit is controlled by controlling the three way valve.

7. The method of claim 5, wherein the three way valve is provided in a form comprising a three way fluid junction whereby a first variable flow restricting device is provided between the three way fluid junction and the longitudinal drilling fluid passage and a second variable flow restricting device is provided between the three way fluid junction and the fluid discharge conduit, and delivery of the drilling fluid from the pump via the bypass conduit into the discharge conduit is controlled by controlling one or both of the first and second variable flow restricting devices.

8. The method of any one of claim 5, wherein the flow of drilling fluid through the longitudinal fluid passage in the drill string is shut off and pump action of the pump is maintained for pressurising the bypass conduit.